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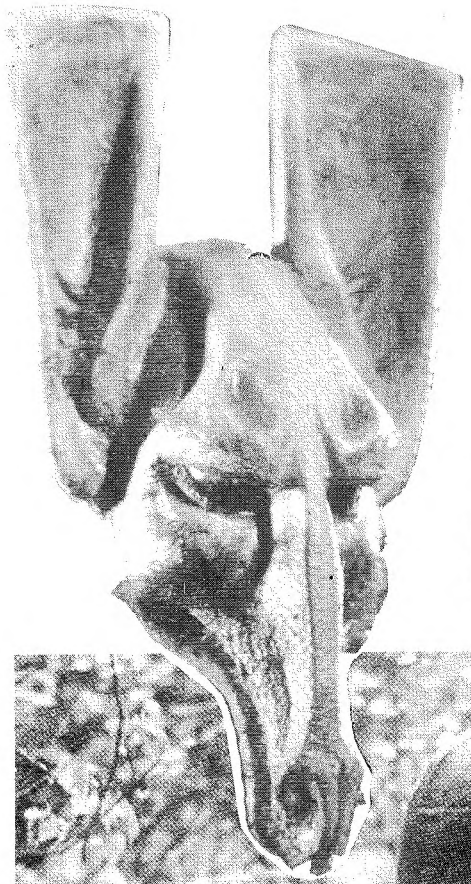
IN-VISION

DOCTOR WHO

PYRAMIDS OF MARS

Front cover: Susan Teck



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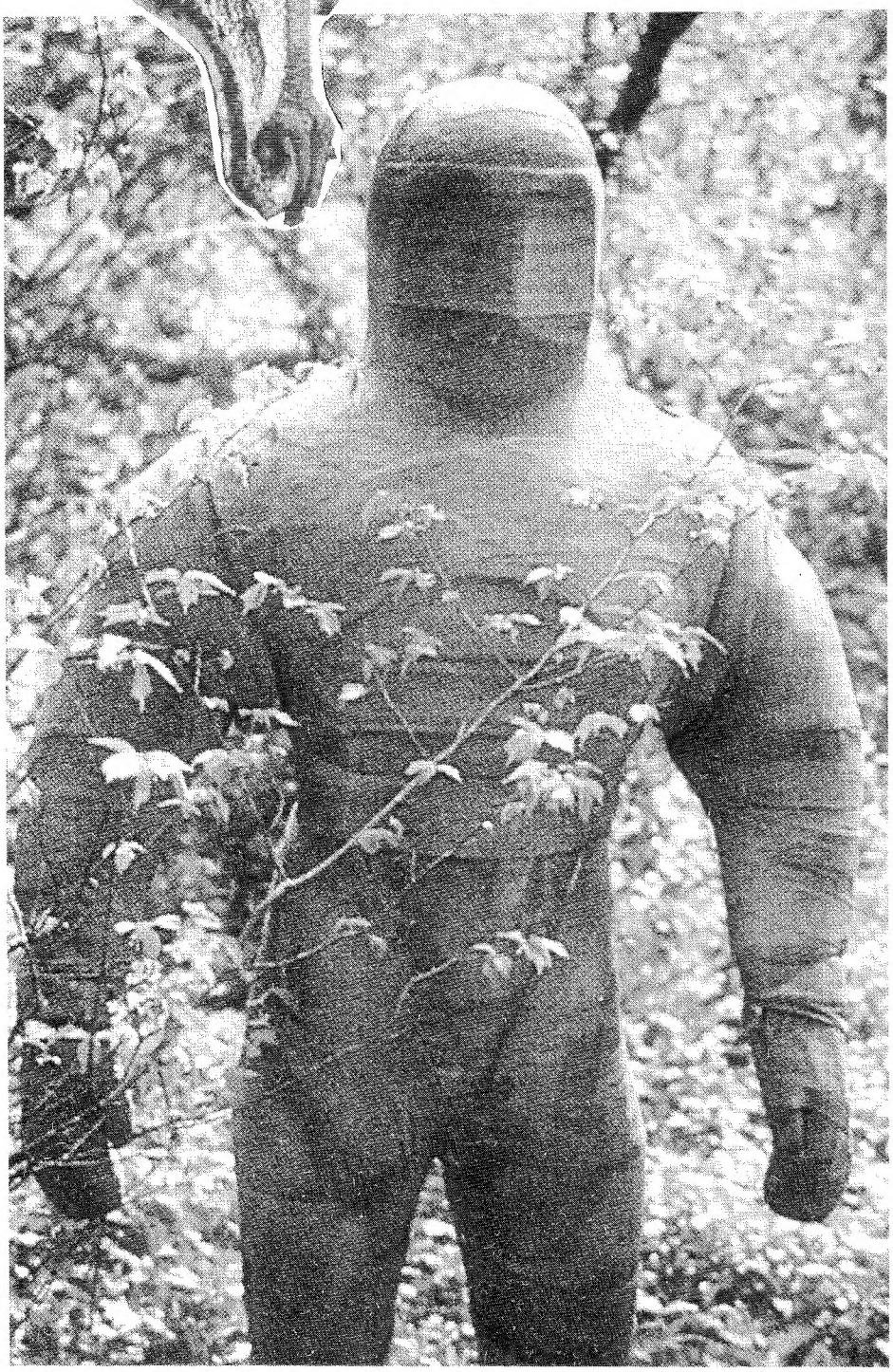


TERROR OF THE ZYGONS (serial 4F) had made extensive use of location filming. On paper, the studio/location ratio of PYRAMIDS OF MARS looked very similar. In fact, the transmitted version of TERROR OF THE ZYGONS included 1082 feet of 16mm film, and PYRAMIDS OF MARS 967 (including location and effects footage, but not title sequences). Logistically, PYRAMIDS OF MARS had to be the first production of the new block of stories, in order to make maximum use of the extra filming days affordable to the block's opening and closing stories.

Transmission order

To balance the season out more, producer Philip Hinchcliffe decided to change the running order of the season so that the studio-bound PLANET OF EVIL (serial 4H) ran second, the two Earth stories (PYRAMIDS OF MARS, serial 4G, and THE ANDROID INVASION, serial 4J — see next issue) in the middle, another studio/alien story fifth, and a six part Earth story ending the season. Moving PYRAMIDS OF MARS also added the advantage that it was transmitted close to Hallowe'en, but this was luck rather than design.

Scripting

Philip Hinchcliffe explains how the story came about: "Bob (Holmes) was the one that wanted to do PYRAMIDS. That came straight from him. He said 'Great props, with tombs and all that sort of thing'. I said 'Good, but how do we get the science fiction into it?' I thought it was great — the idea of taking a pyramid and saying it was really a spaceship. We weren't just doing *Hammer* horror — taking the props and having people wander around as they would do in an Egytology horror story. We wanted to use the props of that genre and do something different, and brought it into the **Doctor Who** formula. So you have mummies, and they looked a bit like mummies, but they're really robots."

Although authorship was credited jointly to Lewis Griefer and Robert Holmes (under the pseudonym of Stephen Harris), very little of the finished teleplay was Griefer's. Script Editor Robert Holmes explained: "PYRAMIDS OF MARS was total rewrite. I knew Lewis Griefer of old. I knew he had an interst in mythology. He had written science fiction before for ITV. But then he had to go into hospital, and then he went out to Tel Aviv to do a stint in the Chair of Television, or something. The scripts arrived late, and there was no way of contacting him in Tel Aviv and getting him to rewrite the way I wanted the story. I also formed the impression that Lewis had never actually *seen* **Doctor Who**. It was quite different from the pattern and the Doctor's character and everything.

"I wanted the mythology — I got all that from a book. And basically I wanted a rerun of *Curse of the Tomb*, or one of those mummy films. So I had to rewrite it."

Holmes, with writing help later from director Paddy Russell, kept practically nothing of Lewis Griefer's original, except for the time period (1911) and the title (altered from PYRAMID OF MARS to the plural version). Holmes describes Griefer's original: "Lewis Grieffer's story, as I recall it, started with two museum keepers being chased through the British Museum by a mummy, for some reason. And the reason, it suddenly transpired, was something to do with frightening them out of

RX has been held over this issue for reasons of space. It will appear at later date

TION

the place so that they could open the sarcophogus. Because in it there was some wild rice left over from ten thousand years ago, some grains with which this particular group wanted to seed Mars — so that they could make a lot of money. But the story veered all over the place, and it wasn't anything to do with Egyptian mythology. I wanted Osiris and all these people in it.

"PYRAMID OF MARS was his original title. He was very into pyramids and the alleged magical properties they have. If you leave a razor blade under one, it's supposed to stay fresh for ever."

Holmes took the opportunity of scripting the story to redefine the Doctor's character and *raison d'etre*. With Hinchcliffe adamant about phasing out UNIT, the Doctor's "walk in eternity" speech was a move towards establishing an alien, more detached Doctor. The script also set other important continuity markers for the series. The Doctor's age is set at around 750, and he is attributed with a respiratory by-pass system. The constellation containing the Time Lords' home planet of Gallifrey is name Kasterborous, and the TARDIS contols are *described* as "isomorphic", though this is never puit to the test. This claim that only the Doctor could operate the TARDIS was to bring Robert Holmes a sackful of contradictory mail. But as he later said: "The Doctor could have been lying."

On location

PYRAMIDS OF MARS was filmed in the grounds of the *Stargroves* mansion near Newbery in Buckinghamshire. At the time it was owned by Mick Jagger, although he was not in residence while filming took place. Paddy Russell: "The Unit Manager went and searched, and I saw about four different houses before I settled on *Stargroves*. This was greatly to his *chagrin*, because he'd had a lot of problems getting in touch with Mick Jagger. 'I knew you'd do that,' he told me. 'I wish I hadn't told you!' But it was the right location — stable buildings, woods and so on. He knew me and he knew that was the house I'd choose. But he showed me the others in the hope I might not!"

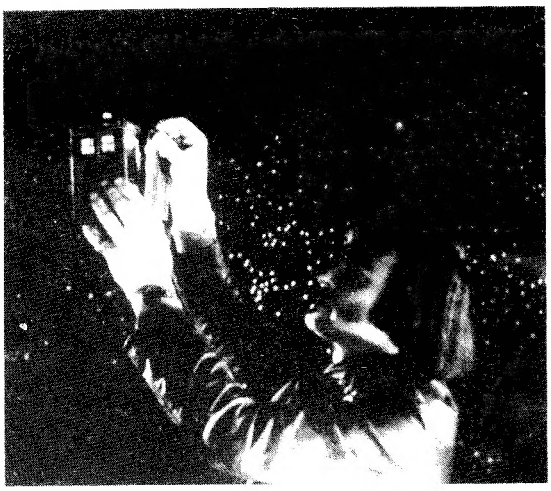
Only after permission had been granted to use the grounds did the crew learn that *Stargroves* had been the home of Lord Caernarvon. Caernarvon had died in mysterious circumstances after his part in the discovery of Tutankhamen's tomb in 1926. (Interestingly, one of Tom Baker's first broadcast roles after relinquishing the part of the Doctor was as a sinister Egyptian in a dramatised account of the deaths associated with the alleged curse of Tutankhamen's tomb.)

Elisabeth Sladen's period costume (a long white dress allegedly left in the TARDIS by Victoria Waterfield) tended to trail along the ground on location, making it dirty.

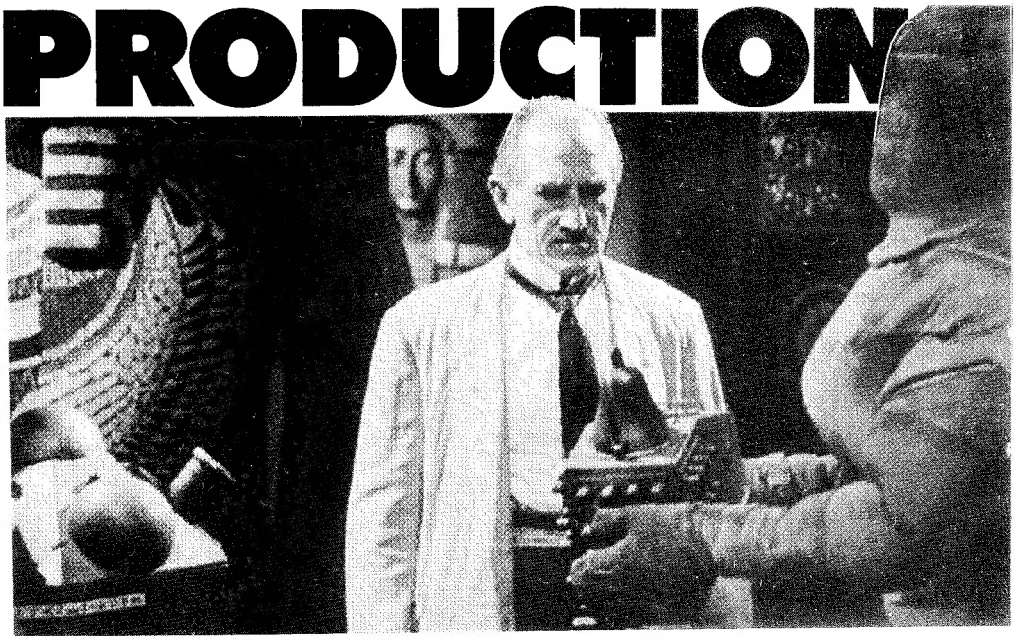
Location effects

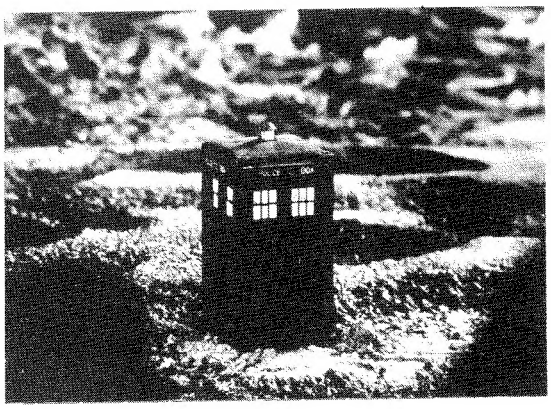
The main task before production started was assembly of the pyramid rocket. This was made of aluminium and fibreglass. Paddy Russell: "We built two sides of the pyramid in the grounds of *Stargroves*. But I kept away from it as much as I could because it wasn't actually all that brilliant. To do technical effects in the studio isn't easy, but at least you can control the conditions. Doing them on location is a nightmare, even though we didn't have the problem of the public — because we ▷

PRODUCTION

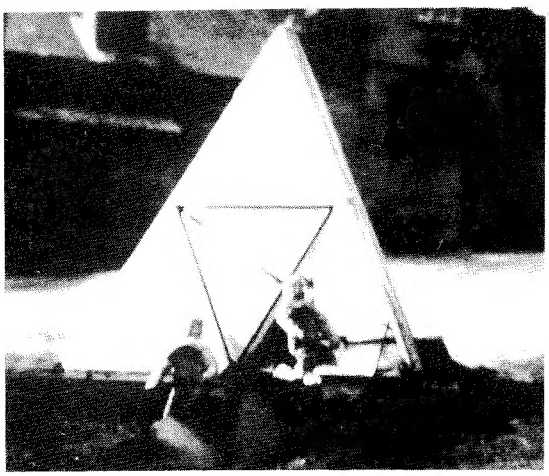


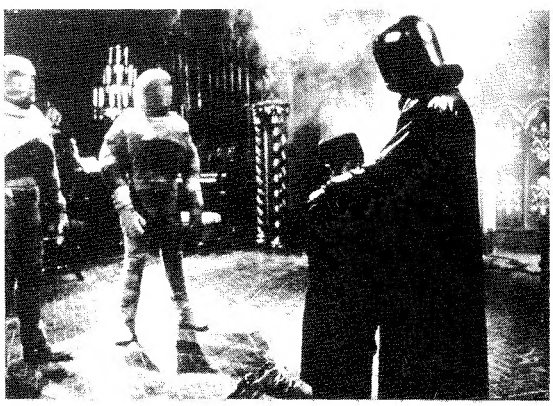
Ian Scoones sets up the TARDIS model shots





Model TARDIS lands in 1980 — a scene cut from the transmitted programme





A heated exchange at the end of part 1

were in the private grounds of a private house. But on location you've got wind, rain and uneven ground. Double the trouble. So where we can we try and keep the effects to studio." The pyramid rocket construction was more two-dimensional than three, having no back to it. This restricted the use of cameras, and the pyramid was seen mainly in long shot.

The film schedule originally included the pyramid's destruction, which was planned as a live-action explosion. But due to the possible risk of damage to the mansion, this was rescheduled as a model shot. Another effects achieved on location was the scene where a mummy is caught in a man trap. Paddy Russell: "We had one with slackened jaws for close shots, as well as a real one for cutaways."

A particular location problem was the filming of the mummies. The rigidity of the costumes and restricted field of view made it very difficult for the actors playing the mummies to negotiate the uneven terrain. See *Mummies boys* for more information about the mummies and the creation of the deflection barrier.

Model work

The miniature work on the story was extensive. Visual Effects Designer Ian Scoones argued for, and got, an allocation to use a 35mm camera rather than the more usual (and cheaper) 16mm. This gave a better picture when the film was run at normal speed (for example, the pyramid passageway doors opening to reveal the route to the TARDIS in part four). It also cut down the graininess of the picture when high-speed film (120 frames/second) is projected at normal speed (25 frames/second). The sequences shot at high speed included the burning of the Priory, the destruction of the pyramid rocket, and the hurricane blowing over the desolate alternative-future Earth.

One model scene deleted from the programme's final edit was the miniature TARDIS materialising on the post-Sutekh future Earth. This scene was filmed (see picture), but was dropped as it was felt it spoiled the surprise when the TARDIS doors open to reveal the devastated Earth of 1980. The model shot of the landscape was ChromaKeyed into the TARDIS doorway using yellow as the keying colour.

In this alternative-future scene, and indeed throughout Hinchcliffe's tenure as producer, the TARDIS materialisation sound is never heard within the ship. Both Hinchcliffe and Holmes believed that the "wheezing groaning" sound of the TARDIS engines was inaudible inside.

Not in the house style of the show, however, was the ability to see *through* the TARDIS doorway. Paddy Russell comments: "I don't work in anybody's house style. The TARDIS was always a funny curiosity. I wasn't the director when the set was designed, so I was landed with it — though you could move bits around. And why not? Somebody must have been able to see out of the doors at some point."

Lighting

PYRAMIDS OF MARS posed some problems for the lighting team. Paddy Russell: "I remember the pyramid being difficult because it was absolutely essential that it was dark. And I was fighting constant battles with the technical supervisor who, every time I said it was too light, said it wasn't going to be transmittable. We couldn't play the games that we play now, because cameras weren't that sophisticated. And I can remember the fights to get the level down, where he would agree it was transmittable and I would agree it was reasonably dark enough. Sutekh's room was similar. They were frightened to death that on transmission the picture would be so dark that the transmitter would think the picture had gone, and lose it or put out a test signal."

Studio effects

Unusually, the Visual Effects team was granted permission to do fire effects in the studio, during the second recording block (June 2/3 in TC6). Normally an interior fire scene would be done on film at Ealing. But for PYRAMIDS OF MARS, with a fire officer in attendance, Ian Scoones was able to set up pipes linked to an array of concealed gaskets to create the Priory conflagration.

Other effects done in the studio included the shooting of Marcus Scarman. This sequence was shown on the programme's first run on BBC1, but deleted from some overseas prints of the story. The scene was recorded backwards, then replayed from videodisc to tape. Paddy Russell: "One of the hardest things in PYRAMIDS was Bernard (Archard) being shot. He had to act backwards, and that's very hard to do. He's a very skilled actor. I think he had about three goes at it.

"I'd rehearsed it both ways — both how it *would* happen, and how it *would have* happened for the audience. So Bernard had in his head what the audience were going to see when he did it the other way round."

Sean Ditchfield

Music

Dudley Simpson composed the incidental music for PYRAMIDS OF MARS, and also the organ music which signified Sutekh's presence. Paddy Russell: "I get furious with background music. It drives me wild. I hate American series that use it. Used correctly though, music can add to the atmosphere greatly. I recollect putting more in than was originally scripted, because the organ is such a marvellous instrument."

Costumes

Costume Designer Barbara Kidd worked closely with the director on designing the mummies. "She did a lot of research in the British Museum," explains Paddy Russell. "So the first thing did was come back to me with drawings of the real thing. From there you have to start amending. A mummy doesn't normally have legs — it's normally bandages all the way down. So you start cheating, because you've got to let them move.

"Then they've got to be able to see. We had to give them some vision without making it obvious for the audience. It was important to have them move without sight. We put a narrow slit in the head, with just one layer of bandage over."

Recording

The large Organ Room set was required in both recording blocks. So other sets were limited to just one block each. All the TARDIS interior scenes were recorded in the first block (19/20 May, in TC3), and all the pyramids scenes (including 1/1 as Scarman opens the tomb) in the second. This also meant Gabriel Woolf and some other members of the cast only had to be engaged and paid for one week's recording rather than two.

Sutekh

Gabriel Woolf was chosen to play Sutekh because he was an accomplished radio actor. He also played the seated Sutekh, speaking most of his lines in real time, assisted by the accoustics of the fibreglass helmet. Apart from moving his head, the only movements Woolf performed were rising from his throne in part four. But because of the costume's weight, and the flimsiness of the throne prop, this could only be achieved if a stagehand held the chair steady — and the hand is still visible in the transmitted episode.

The jackal-headed Sutekh was a dressed mannequin. The helmet, wired with green light bulbs, was also mounted on the mannequin for the various cut-ins of Sutekh's blazing eyes. Originally the green glow showing Sutekh's mental power was to have been superimposed over the sarcophogus during scenes where Scarman gets his instructions. But this was dropped in favour of an accidentally dicovered effect — see *Mat effect*.

Time/space tunnel

The time/space tunnel was a multiple-feed ChromaKey effect. The tunnel was described in the script as "whirling red maelstrom stretching seemingly to infinity". But the designers compromised by constructing an illuminated, spinning kaleidoscope which was keyed on to the blue sarcophogus interior. Travellers down the tunnel (Sutekh, Doctor, Scarman, coordinates of Mars pyramid, TARDIS key) were positioned against a green ChromaKey background and moved closer and further away by zooming.

The tunnel was meant to be super-hot. To give this impression, smoke effects were added to anything emerging from it. In the script, Scarman is barefoot, and leaves blackened footprints as he steps out to confront Namin at the close of part one. The designers wired smoke pipes into Scarman's shoes, and beneath Namin's jacket for the episode climax, in which Scarman kills Namin. □

Mummies boys

PADDY RUSSELL talks about the horrors of directing Doctor Who

I SUPPOSE I must have done getting on for a thousand network programmes. And the only ones I've ever been asked about are **Doctor Who** because it's become a cult. But for many directors, especially in the early days and if you were a BBC staff director, it was the equivalent of being sent to Siberia.

It was a murderously difficult programme to do. For a drama director it was very frustrating in that your time was much more spent on getting the technical effects right than it was in getting the actors' performances. You were very much in the hands of the experts on the technical side.

By the Seventies, the effects were much more spectacular. **Doctor Who** led the way with special effects, ChromaKey and so on. I'm not particularly technical. I say, "What I want to see on screen is this. Now produce it, fellers!" And somehow they'd do it, but it would always take time. They never in those days realised what those effects were going to cost. We were always strapped for money, scratching round to try and do something where we needed more facilities than we had. The big problem in the studio was always time. But the effects on PYRAMIDS OF MARS were not all that difficult.

Rehearsing for effects, I always had in the back of my mind what the actor would see. That's the point when it becomes more specific - where the actor has to react to a certain effect. You've got to be able to tell the actor exactly what he is reacting to. And then at the end of the rehearsal I might make a phone call to the effects guy to discuss it. The roll-back-and-mix scenes were very specifically rehearsed. Providing the actor knows exactly why he has to stand rigid, that is fine.

Very often you could get a broad idea of what you wanted to do. But until you started to put it together in the studio, nobody (even the effects guy) knew what it was going to look like. I'd put it on a monitor so the actor could see it before they actually did the scene. Any actor working in **Doctor Who** who's tied up in the effects has to have an enormous amount of patience. They could be waiting for hours while we're fiddling upstairs in the gallery, and they don't know really what's going on.

The people I was sorriest for were the unfortunate mummies. The costumes were fairly rigid with just an eye slit which had a narrow bandage over it. The costumes were in quite a few pieces - two for the body, two for the legs, and the head separate. During the design, I can remember Barbara Kidd (Costume Designer) ringing me up on several occasions, saying "Come and have a look". I put the head on and tried moving about. One of my advantages as a drama director has been that I started out as an actress, so I'm very aware of the problems that actors can have.

We got one of the boys in at a fairly early stage on the basic costume and tried it on him. We experimented to find out how much he could see and how well he could move. Barbara made a lot of alterations then for movement. We'd got the sight about right, except for looking down which was the one thing they really couldn't do.

It was all right in the studio, because that was a smooth floor, and the scenes are rehearsed. But when filming a scene with the mummies chasing some unfortunate through the woods, I was shooting on a fairly steep slope. Those two poor boys! Woods are woods, so the ground wasn't even. I rehearsed it very slowly and carefully so that they got the feel of the ground. So that funny walk was fairly real, because the costume was so stiff.

When the Doctor was disguised as a mummy, I had a lot of trouble with Tom. He didn't want to wear the costume: it was a very heavy disguise. But the Doctor inside is a very different deal from one of the boys doing a stand-in for him. I insisted that the performance would be different. Tom's body language is very distinctive.

The first Doctor I worked with was Bill Hartnell on THE MASSACRE (serial W). He was the original, and for my money was always the best. Bill only played the Doctor for part of the first episode and the last. For the rest of the time he was the villainous Abbot of Amboise. He had a difficult reputation, and I was the first woman director to work on **Doctor Who**. To be honest, I wasn't particularly experienced - still a BBC staff director.

But I actually found Bill quite easy to work with. I think that was partly because he was playing a different character. I used to get around quite a few problems by saying to Bill: "The Doctor's showing". Then I could get almost anything out of him for the rest of the performance because it was important that the Doctor didn't show. Bill never forgot that the Doctor wasn't human, and he had this rather nasty edge on him which was wonderful for what we used to call the 'behind the sofa syndrome'.

The next one I worked on was INVASION OF THE DINOSAURS (serial WWW) with Jon Pertwee. Jon was almost more interested in what he was going to wear, and was not good on lines. John Bennett, a very good actor, was playing opposite him as General Finch. I'd warned him that we had to write things all over the set. John said it was the only time he'd had to play a major scene with an actor who never actually looked at him, because he was always looking somewhere for his next line! It didn't really show and we used to get away with it. But it used to send us into hysterics.

DINOSAURS was the most difficult one. The dinosaur models were absolutely beautiful. They were only about two foot six inches high. One thing we found out fairly fast was, if we were to make it work, we'd got to nail the creatures on to the blue CSO board. Otherwise you got the impression of them floating. Then there was the enormous problem of scaling them up with an actor in the same picture. It was a laborious process but, although it was such hell to do, that was the one I enjoyed most.

You had to get it right - what does a dinosaur sound like? Nobody knows, but obviously they had to make a noise. Tyrannosaurus Rex ended up being a cow mooing backwards. The one we had arguments on was the Brontosaurus. With a long neck and small head it would have a small voicebox and be unlikely to roar. In the end, the sound supervisor and grams operator and myself agreed that it would hiss. Our audience were quite sharp enough to pick up on that.

Deserted London was a problem. I started shooting at five o'clock in the morning, and even managed to get around Trafalgar Square in one take without any traffic. Later in the day we did have problems getting people out of shot as **Doctor Who** was well enough known by then to attract the crowds.

PYRAMIDS OF MARS was a problem because the script wasn't very strong. We had to keep rewriting it to try and get a balance on it. Egyptian was an interest of mine, so I did pay an awful lot of attention to it. The characters were sketchy and the plot had terrible holes in it. When I first read it, it felt like a first draft. I've got a very logical mind. I'm terrible for tearing apart thrillers, looking for loose ends. The only one I can't is **Taggart**! It made me fairly unpopular with script editors.

I like where possible to work very closely with the original writer, on **Who** more than on most things. So I could talk through what may not be working and offer alternatives. Mostly on **Who** you were picking up on a late draft when the writer wasn't available anyway. On PYRAMIDS I worked closely with Robert Holmes.

I came to the production six weeks ahead of shooting. Time enough to go through the scripts and alter things that I didn't feel were working. I'd also then have started to sort out the technical effects, talking to all the visual effects people.

On any normal drama the first thing you go for is the casting. On **Doctor Who** you do the casting and effects in parallel. Because the effects are so vital, the first thing I'd do would be ring up and find out who's doing them.

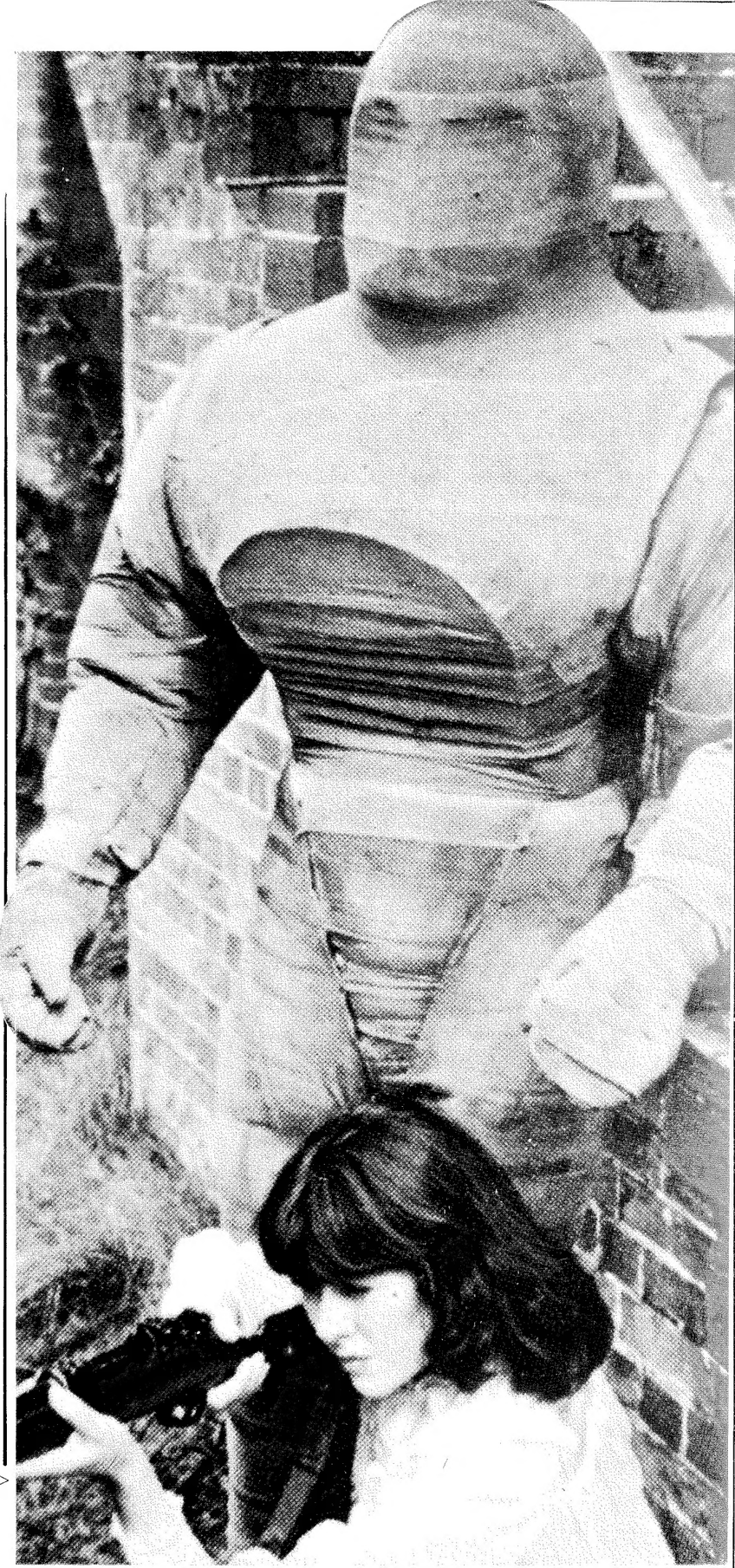
Ian Scoones and I had long discussions about the time tunnel effect. That was a pig to do because it had to be framed within the sarcophagus and took a lot of achieving in the studio. I don't think we were actually sure what we were looking for starting from the script.

Not being very technical, I relied enormously on whoever was doing my visual effects. I could tell them how I wanted it to appear on screen, but not how I wanted them to achieve it. As soon as that was on the way, I'd start to cast.

I chose Gabriel Woolf because of his voice. You need it because you never saw Sutekh's face. I heard him on the radio and his is a superb voice. His stature was a plus.

You could get very good actors, like Bernard Archard, to play in **Doctor Who**. Not because it was **Doctor Who**, but because the scripts we were offering them had a good character in them. The point at which **Doctor Who** started to fall away was the point at which they started to get clever with it. For my money, the thing that really made the programme work was if you had a good Doctor and strong characters, and it worked as a drama. People liked the effects of course, and looked forward to them. But when they started to oversophisticate it and forgot that people are important was where it started going downhill.

The companions were always, I felt, a gesture. Tom ▷



never wanted an assistant. The BBC was a very male chauvanist company when I was there. I had difficulty getting a director's job and in the end I had to leave the BBC to do it. I had an even worse time getting to be the first female floor manager. I went to three interview boards for that. And what I was getting was: "A woman can't control a studio like a man". What I used to say was: "I've no intention of trying to control a studio like a man".

When I got it, I never had the slightest difficulty controlling it. It's a different attitude. But it was a male chauvanist bastion then. It had begun to ease up, I think, when ITV started. But any mistake you made was liable to be put down to the fact you were female, not whether you were a good or bad director. It never bothered me that much, I must say. I never had any trouble in getting what I wanted!

I think women take less readily to space epics and special effects. As viewers they are more interested in people, that's why I always fought very hard for the characters to be very good. Men tend to pay more attention to the situation. They won't let you get away with loose ends. Women won't let you get away with poor characters. I was one director who wouldn't work with the Daleks. Well, they either move or they don't, so I turned down the script.

When casting walk ons, you're looking for specifics. I tended to use people I knew. They do get treated badly in the studio, like spare parts, yet they're absolutely essential. I was very careful about the mummies because I knew what I was going to be asking them to do - to be stuck for hours inside these hot and difficult costumes, walking running and reacting even though you couldn't see their faces.

Casting with a producer is fine if you're both on the same wavelength. I got on all right with Philip Hinchcliffe, and extremely well with Robert Holmes.

From the director's point of view, things like too much violence in the script are not problems. It's the producre's problem to take that out of the script. If it's there, I do it the way I think it needs to be done. If the producer doesn't want it in the script, I might fight if I think it's essential to the story.

I always had a number of production meetings. But at the vital ones I got together the set, costume and make-up designers. It's so important. Any director who's worth the money makes sure that the people in the production don't just have one meeting, they have several. So Sutekh's appearance was costume working with effects. The wall effects were a problem. But if you're working closely enough with your team, which is why I think it is so essential, then a lot of ideas come up.

My contact with make-up is probably more tenuous than with anyone else on the show. They're out of the studio dealing with it, and I'm in the studio watching what they're producing. The only time we'd have any close contact would be if the designer's not happy, and talks to me about what the effect needs.

We went out to film weeks before the studio, and then played the film into the studio while the lighting director did his best to match the light. Immediately on film there's the difference from the crisper image on video. Outside Broadcast equipment was simply not available. But the audience then never knew whether you were on film or not. On film, there's no time to stop for the light and you have to adapt to the conditions. You might change a line like "Isn't it a lovely day" to "Isn't it a lousy day".

The location effects had to be dead simple. For the effect of the poacher running into the barrier, I think I'd discussed it with the film editor so that he knew exactly what I was after. What I tend to do is give the editor a brief and then go and see a rough cut. Again, very much a science fiction problem, if I'm looking for a particular effect the film editor has an input to me.

Before the studio I always used to do a chart of which sets I was going to use, and when. From that I could work out whether I could go away and record it as I wanted to. In those days we were expected to do most of today's post production in the studio. We didn't have VT dubs, it had to come out of the studio ready to fit together. It's the only show I've ever done where you pray to get rid of the performances in half a day, and have the other half to do the effects. Retakes were not in favour!

As far as possible I would fight to do it in story order for the actors' sake. It's much easier for an actor to follow his own progression if you're doing it in the order it's going to be shown. I used to have a lot of fights over that. But providing it was viable, unless for example you had a big set taking up a lot of room and had to do all those scenes at once, I'd have recorded in story order. Then I would try with the actors to get the progression.

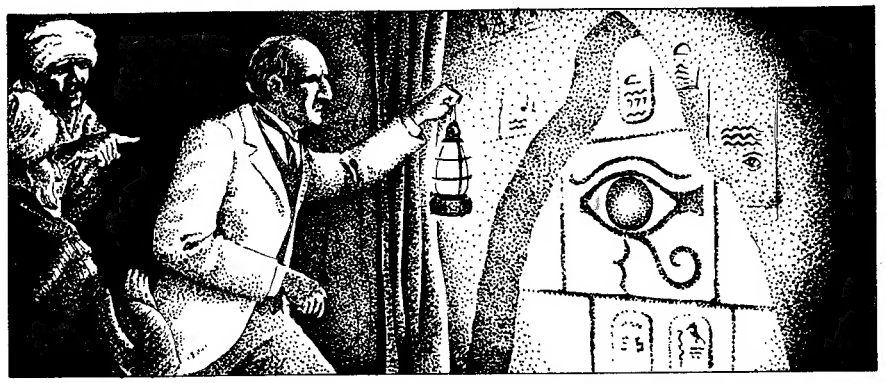
It's not so much a worry with feature films, because you have more time. You're so short of time in television you have to rely on the actors being able to jump episodes. By comparison, a one-off play is an entity on its own. You're not picking up the history of a long-running series where you've got an inheritance factor, like sets you may hate. And perhaps most difficult of all for the director, you've got people who've been on the programme longer than you have.

A play gives more time - you'll have done all the casting yourself, the actors are coming fresh to it and so are you. You are in control of the whole lot. But picking up a long-running series you're liable to have trouble with the actors who have been with it for a long time. It's understandable to a certain extent, they've built the characters.

Most actors who appear in long-running series become egomaniacs. There are two honourable exceptions to that in **Emmerdale Farm**, Ronnie Magill (Amos Brearly) and Arthur Pentelow (Henry Wilks). Somehow over fifteen years they haven't, which I think is wonderful.

They're still marvellous to work with and still listen to the director. When I worked with Tom on PYRAMIDS, he listened. It's not so bad if the director has done a number of the shows. Actors are very nervous, you see, so their immediate reaction is at best reserved, but at worst hostile. You have to break that down for a start.

One had no idea working on **Doctor Who** at that stage that it was going to take off as it has. I mean, you just did a **Doctor Who**. At the end of it you collapsed in a heap and hoped you didn't have to do another one for at least two years. □



Martin Proctor

PYRAMID POWER

Analysis by David Owen

THE title PYRAMIDS OF MARS was the only part of Lewis Griefer's original script retained by Robert Holmes. The name of the story might have seemed less perplexing to the viewer of 1975 than to his or her present day counterpart. 1972 was the fiftieth anniversary of the opening of the tomb of Tutankhamen by Professor Howard Carter and celebrated by a British Museum exhibition. This attracted sufficient media attention to ensure the public was familiar with both the notion of the early twentieth century Egyptologists and the appearance of the artefacts they had plundered. As well of course as the supernatural folklore concerning the exhumation of those once regarded as gods...

Thus the story's establishing shots of Egyptian pyramids, followed by Marcus Scarman's wonder-filled intrusion into what appears to be a burial chamber breaks few conceptual or cultural boundaries. Seeing the 'evil eye' glow and Scarman's local, unreliable servants scatter in terror (in a way that his servants later in the story do not), we could be forgiven for expecting a remake of a Hammer *Mummy's Curse* film. Aside from the visual cipher later in the opening episode of a sarcophogus door being opened and a mummy emerging, the story manages to avoid comparison with a horror movie in that everything has a rational, albeit fantastic explanation. The mad scientist's folly is not the real enemy and the conventional roles of heroes and victims are transcended.

Hammer cliches nodded to and dispensed with, what then of the hardy perennial features of **Doctor Who** that viewers subconsciously expect? The regular viewer could by this time expect the story to open, like its two immediate predecessors with a dirty deed being done, followed by the arrival of the TARDIS, either coincidentally or (as in this case) otherwise.

The opening TARDIS scene is an interesting pointer to the rest of the story, as well as the trends the series was then undergoing. As the series moved away from Earth and human values, this scene reminds us that we have no right to expect the Doctor to possess them. This is reinforced later by the differing recations of the Doctor and Sarah to Laurence Scarman's death. Sarah is distraught at the mounting scale of personal tragedy, whereas the Doctor is relatively unaffected. His universal view perceives a potential tragedy far greater, the scale of which has not (and perhaps *can* not) be imagined by his companion. The Doctor's reaction to Scarman's death seems particularly harsh considering his previous delight at the man's reaction to the TARDIS.

The sanctity of the TARDIS as a refuge is challenged head-on, both in the opening scene as Sutekh's mental force projects his image into it and pulls it off course, and later when Sutekh sees it as the means of his deliverance. The Doctor has fallen prey to the assumption that the TARDIS is impregnable. When we see this proved wrong we can appreciate the strength of his adversary, or at least his adversary's powers of mental projection.

Previous stories had gone to great lengths to separate the Doctor from the TARDIS so that he cannot escape. The Doctor's mission on occasions has been primarily to return himself and his companions to its safety, and only secondly to act as bringer of justice. Here, however, he is able to show Sarah the consequences of bolting before the job is finished. Despite raising more philosophical problems than it solves, this scene augments the many references to how powerful Sutekh is.

AS WELL as the security of the TARDIS being called into question, the story also shows the Doctor himself as being capable of near-disatrous folly and oversights. Some of these are the causes of the plot's sustaining high points of danger and risk when all is nearly lost. As the *1980* scene shows, the future of the cosmos is dependent upon the Doctor and Sarah staying in 1911 and defeating the Osiran. So when the Doctor neglects to mention to Sarah that "sweaty gelignite is highly unstable" *before* she throws a box of it to him, as well as providing a scene which helps underline their relationship it shows just how precariously the future hangs in the balance.

A less humourous example of the Doctor's folly comes at the cimax of part three. He travels to Sutekh's chamber to distract him and break his concentration so that the psych-kinetic control of the gelignite's potential release will fail. Either this is a deliberate act of self-sacrifice, or he has simply failed to consider the consequences of being alone with Sutekh and his ensuing, understandable if unjustified wrath. After having begged Sutekh to destroy him, a shockingly negative utterance from someone who is supposedly the pro-life antithesis of Sutekh's cold destructiveness, the Doctor almost piously condemns his captor. The result of this is a display of mental torture which leaves us in no doubt that Sutekh could "if I chose keep you alive for centuries wracked by the most excruciating pain." or "shred your nervous system into a million fibres."

This scene gives us an insight into the *real* Doctor. He is alone with his executioner, *knows* he is going to die, and has no companions with him into whom to instill morale.

The Doctor is not the only character to be given greater depth in this story; Elisabeth Sladen shows to great effect the genuine human emotions which enable Sarah's reactions to the unexpected, the alien and the shocking some of the most credible in the history of the programme. She is so believable that inconsistencies such as her ignorance of explosives does not jar with her expertise with an early twentieth century rifle. Neither do we question her convenient and previously undemonstrated knowledge of Egyptian mythology.

Sarah's recourse to semi-systerical humour to ward off full-blown terrified shock is exemplified here, particularly in the lock-picking of the deflection barrier. The Doctor uses an almost sledgehammer metaphor to warn Sarah of the danger and asks her to let him know if the controls get hot. Sarah responds: "Don't worry, you'll hear me breaking the sound barrier." There is a great deal of such interplay in this story, to an extent that we do not miss any of the other sympathetic characters as they are killed off along the way to part four.

The final episode also stands alone conspicuously. The story moves away from being a beautifully filmed and recorded period piece, complete with archetypal poacher and butler, to a **Doctor Who** tour de force of shifting CromaKeyed back-drops and lots of corridors (replaced in the first three episodes by woodlands).

THE story's emphasis on the two leads and villain does not become tiresome, born along by Sutekh's impotent omnipotence. For a man paralysed in a chair, like Davros, he exerts his influence through those with faith in him. It is their actions but *his* words that are memorable.

This emphasis on strong character in villains rather than merely an alien, menacing appearance is one of the fortes of the Hinchcliffe-led production team. Sutekh's 'leg man', Marcus Scarman, in turn relays his will to the Servicers. The robots' origins, along with the reason why Horus was good enough to leave his evil brother with the equipment to build a missile *and* the coordinates of the Pyramid of Mars, remains one of the story's few but major loose ends. It seems from the way the process works that neither Sutekh nor Scarman have total telepathic empathy with their servants. The Doctor's disguise as a mummy (unrealistic for being so convincing) actually works — Scarman cannot sense that it is an imposter. The appearance of Sutekh on the scene is unimportant given that his influence is alluded to throughout the story, right from episode one's "something is happening here contrary to the laws of the universe". Sutekh is an invisible witness and force in most of the scenes with the mummies and Scarman, and earlier with Namin. Initially the presence of his influence and power is conveyed to us by the sound of the organ, permeating even the woods outside the house. Later it can be taken for granted; the atmosphere is already laden with his power and evil.

Ultimately, it is this emphasis on influence and the characters' reactions to it — of the unknown rather than appearance — that can make **Doctor Who** so convincing. Performances such as the Doctor's rage or Laurence Scarman's bewilderment, Marcus Scarman's wonder at the tomb or Ernie Clements' fear — or even short moments like Marcus Scarman's release from Sutekh's mental grip before collapsing and burning away — mean that the programme can get away without having to resort to companies of aliens, wide-screen portrayals of armageddon or blood and guts flying everywhere. If you believe the reaction, you believe in the cause. □

Mat effect

"If it isn't obvious then chances are it will be a visual effect."

MAT IRVINE on the Seventies visual FX explosion

THERE are about eighteen designers working in the department now, with about forty plus assistants including those here as holiday reliefs. So that's around sixty in all. When I first came down to the main department permanently in 1973, I think we were about twenty-six or seven designers and the rest were assistants. There was a big influx of us around that time including Peter Pegrum, Tony Harding, Colin Mapson and Richard Conway. Ian Scoones had only recently joined, so there was quite an infusion then of what you could call 'young people' into the department.

In 1973 we were still based at Television Centre although half the unit had split and gone into the north block at Brentford, where the BBC now houses its film and videotape libraries. Mainly this was because at the Television Centre you couldn't cope with handling larger objects. There was a physical limit to what you could wheel in and out although, oddly, that's a problem we now have at Acton because while we've got the bigger main workshop, you've got to think about getting down the ramp or out of the door. At Brentford, before we finally amalgamated at Acton in 1977, you did at least have a very big loading bay.

There have always been occasions when we have contracted work out to external people and companies. Arguably, less is being contracted out now than back in 1975. Our biggest contractor was *Effects Associates* although the name everyone knew best was *Bill King* or *Trading Post* because he had a standing arrangement to handle all the effects for **The Morecambe and Wise Show**. It's a question really of cutting your cloth according to your pocket. Some shows you can do totally in-house, others, because of, say, lack of staff or lack of time, you're better off farming out bits to contractors.

In 1975, on average, the effects designer on a show would have two assistants. It wasn't a fixed ratio, it just happened that there were twice as many assistants as designers. In the main assistants didn't tend to do whole shows themselves because, at that time, the role of 'Acting Designer' whereby you could do a show on probation, as it were, hadn't been devised. These days it's more common. The number of desiners I quoted for today includes two or three who are acting/permanent in that capacity.

It's much easier these days to get hired as a specialist. Fifteen years ago the only specialist we had was John Friedlander as a sculptor. Despite his background with models and miniatures with *Hammer* and Gerry Anderson, Ian Scoones was taken on at the BBC in exactly the way I was, as a general purpose assistant.

ON PYRAMIDS OF MARS, Sutekh's mask was made by John Friedlander even though he wasn't specifically allocated to that show. John worked very much as a specialist in the same way as Stan Mitchell was later taken on as a sculptor cum general assistant. People will always prefer doing certain types of things to others, so consequently you grab them if you feel an effect is particularly suited to their skills.

I remember Peter Logan wasn't working directly for Ian, but he was around and free. So with his technical background he ended up building the basis of the Marconiscope, to which I added all the mechanics. That was very much part of the way we worked in the Seventies. As an assistant you wouldn't work all the way through just one show, start to finish, as you do now. Rather you'd be doing **Doctor Who** for a couple of days, then you might switch over and work with another designer for a day or two on, say, **The Goodies**. And during that time you could be working on anything from a miniature to a reproduction piece of period furniture.

It is actually one of the more unsung roles recreating stuff that the Science Museum hasn't got. We recently built a replica of a Harrison's Chronometer which was the first accurate timepiece taken aboard ships to measure time. It was wanted for **Think Again** with Johnny Ball, and as there are only one or two of these clocks still left in existence at places like the National Maritime Museum (who wouldn't let them out anyway), we had to make one up from scratch. We took a photocopy of the actual face from a book and put a modern electric, quartz clock mechanism behind it to drive the second hand round.

The Marconiscope started life as a sketch. The *Marcony Company* existed in 1911, but there was never such a device as a Marconiscope. So what you saw in PYRAMIDS was really just our invention which was made to look like something from the period that might have been feasible.

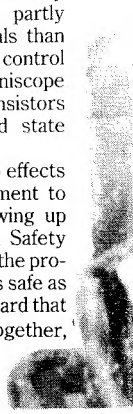
The philosophy of doing certain effects can change as well. When I shot the miniature scenes of the police box TARDIS in flight, the TARDIS was hung on a wire and made to spin past the camera. If you did that today it's far more likely you'd keep the model still and have the camera move. True, you would need to worry about making it spin, but overall you would get a smoother-looking shot than the way we used to do model filming.

The studios are better too. At Television Centre we originally used the old puppet theatre as our model stage which, although it was useful, had an enormous pillar right in the centre of the room, holding the roof up. So all the time you were having to shoot around this pillar which limited the diversity of shots you could manage. That's why Ian in particular preferred to film at Bray whenever he could. The facilities there were better and you could shoot a larger set.

TODAY the role of a designer is far more that of an organiser than when I joined. In the old days the designer on a show was a bit like a lost sheep because they didn't have offices as they do now. When I was Ian's assistant on PYRAMIDS OF MARS I can remember him coming back from meetings and just flinging his bag down at the end of my bench and starting work on the sketches for the show. But the emphasis on total costing and budgeting, which is part of a designer's job and for which you really need an office, was of much ledd importance than it is now.

Thriteen years ago there was proportionately less pressure on us than there is now, partly because there was less variety of materials than today, and they didn'y cost as much. The control boxes we had then, for things like the Marconiscope for example, worked through power transistors whereas nowadays they would use solid state devices.

By contrast though, it can be easier to do effects now because we've got and better equipment to work with. That's partly experience growing up over the years and partly the Health and Safety Executive insisting on certain standards for the profession. That's not to say that we weren't as safe as today, just that we were safe up to the standard that was required then. Joining two pipes together, for instance, it was quite common just to slip a wider one over the other and tighten a jubilee clip around



them. Nowadays there are proper connectors that have to be screwed together. Everything is based around three standard fitting sizes.

Then and today, however, the most critical part of the Effects Desinger's job is attending the initial meetings on a show to decide what does and does not come under the umbrella of Visual Effects; of recognising as early as possible aspects of the production beyond the scope of their peers in Make-Up, Costume, Set Design, and (latterly) Electronic Effects which were still in their infancy during the Doctor's tussle with Sutekh. Yet even with this level of communication, it was not unknown for slip-ups to occur — and even sometimes slip-ups that ended up both beneficial and an object lesson for the future...

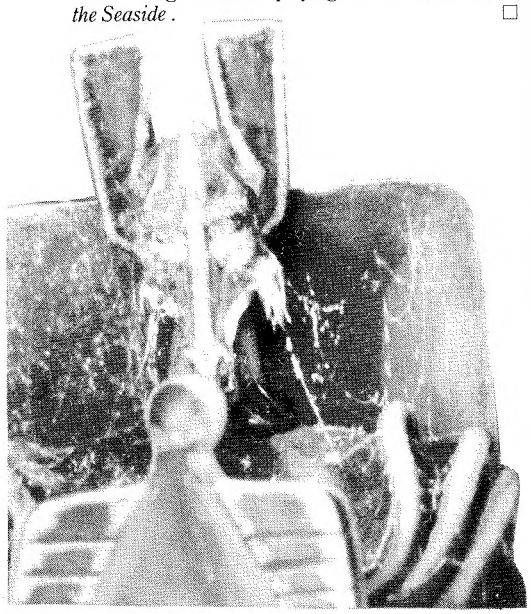
IT TURNED out that one of the colours painted on Sutekh's sarcophogus was almost Chroma-Key blue, which normally would have been disastrous because you don't want the keyed picture appearing anywhere other than on the colour screen in the set. But in this case, because it wasn't *exactly* ChromaKey blue they found they could use it to generate rather interesting patterns on to the sarcophogus. And so it was kept in.

The problem probably wouldn't happen today because ChromaKey switching is much more refined — you can operate on a much narrower, more precise band of colour and thus isolate it from any other shades of blue, green or yellow that you happen to be using in the picture.

Basically, and especially on **Who** you know there are certain things which are obviously effects — miniatures, explosions and the like. But when it comes down to doing special bits of props, or special bits of costumes, you're then into talking to your fellow designers to decide which bits he or she is going to tackle, and anything left over you know you're going to have to provide. A case of they do their bits, and we do the rest. That's always how it seems to work out. A set designer will provide the shelves, and we will make them collapse. He or she provides the ceiling, we make it fall in.

I worked mostly in the studios on PYRAMIDS rather than doing any of the location bits. The mummies were interesting. They had top sections that were hard fibreglass and bottom sections that were just covered trousers from Costume. Sutekh was more involved. John (Friedlander) designed not only the creature's head, but also the ornamental helmet that fitted on top. Gabriel Woolf played Sutekh in the scenes where he's sitting down in the chair. But whenever he was stood up with the animal head visible, that was the costume and mask over a static framework on a stand we'd made because the mask was too small to fit over Gabriel Woolf's head.

The one memory I will have with me forever about PYRAMIDS OF MARS was the studio session we did inside the Organ Room in the house. The organ was supposed to be playing deathly, discordant music over one scene. But when they first came to rehearse it, the Sound Department ran a track of Reginald Dixon playing *I Do Like to be Beside the Seaside*. □



CONTEXT

CAST

DR WHO ..... Tom Baker
SARAH JANE SMITH ..... Elisabeth Sladen
MARCUS SCARMAN ..... Bernard Archard
AHMED ..... Vik Tablian (1)
IBRAHIM NAMIN ..... Peter Mayock (1-2)
COLLINS ..... Michael Bilton (1)
DR WARLOCK ..... Peter Copley (1-2)
LAURENCE SCARMAN ..... Michael Sheard (1-3)
MUMMY 1 ..... Nick Burnell
MUMMY 2 ..... Melvyn Bedford
MUMMY 3 ..... Kevin Selway
ERNIE CLEMENTS ..... George Tovey (2)
SUTEKH ..... Gabriel Woolf (2 OOV, 3-4)
EGYPTIAN LABOURERS (recorded with 3)
Tony Alless (1), Oscar Charles (1)
GOLDEN MUMMIES
Nick Burnell (4), Kevin Selway (4)
VOICE OF HORUS ..... Gabriel Woolf (4)

CREW

PRODUCTION ASSISTANT ..... Peter Grimwade
ASSISTANT FLOOR MANAGER ..... Paul Braithwaite
DIRECTOR'S ASSISTANTS
Val Hodgkinson, Caroline Rogers
FLOOR ASSISTANT ..... James Burge
LIGHTING ..... Ron Koplick
TECHNICAL MANAGER ..... Harry Bradley
SOUND ..... Brian Hiles
GRAMS OPERATOR ..... Gordon Phillipson
VISION MIXER ..... James Gould
INLAY OPERATOR ..... Dave Jervis
FILM CAMERAMAN ..... John McGlashan
FILM SOUND ..... Andrew Boulton
FILM EDITOR ..... M. A. C. Adams
COSTUME DESIGNER ..... Barbara Kidd
MAKE-UP ARTIST ..... Jean Steward
MAKE-UP ASSISTANTS .. M. Wade, Carolyn Greaves
VISUAL EFFECTS DESIGNERS
Ian Scoones, John Friedlander
VISUAL EFFECTS ASSISTANTS
Mat Irvine, Ken Bomphray, Peter Logan
DESIGNER ..... Christine Ruscoe
INCIDENTAL MUSIC ..... Dudley Simpson
SPECIAL SOUND ..... Dick Mills
PRODUCTION UNIT MANAGERS
George Gallacio, Janet Radenkovic
WRITER
Stephen Harris (Lewis Greifer/Robert Holmes)
SCRIPT EDITOR ..... Robert Holmes
PRODUCER ..... Philip Hinchcliffe
DIRECTOR ..... Paddy Russell

TRANSMISSION

Part 1: 25th October 1975, 17.47.10 (25' 22")
Part 2: 1st November 1975, 17.48.04 (23'53")
Part 3: 8th October 1975, 17.46.24 (24'32")
Part 4: 15th October 1975, 17.45.02 (24'52")

REPEAT

27th November, 1976, 17.50.48 (62')

FILMING

29th April to 2nd May 1975, Stargroves House

RECORDING

19th, 20th May 1975 (TC3), 2nd, 3rd June 1975 (TC6)

FILM

Part 1: 11ft (16mm stock), 10ft (35mm fx), 198ft (16mm sound)
Part 2: 9ft (35mm fx), 225ft (16mm sound)
Part 3: 13ft (35mm fx), 380ft (16mm sound)
Part 4: 21ft (35mm fx)

MUSIC

Part 1: 11'20"
Part 2: 13'40"
Part 3: 12'10"
Part 4: 12'50"

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Back cover: Martin Proctor

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Plotlines 13
Radio Times: w/e 31.10.75, 7.11.75, 14.11.75, 21.11.75
DWAS Yearbook (1976)

VIDEO

Doctor Who — Pyramids of Mars (BBCV4055, 1985)

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